

Bridge 06413 Inspection Report



Latitude:34.12335, Longitude:-94.00838

Route:278 Section:03 Log:0.68

Arnold Road ID:31x278x3xA, Arnold Log mile:0.667

District 03, 61 - Howard County

Owner: 1 - State Highway Agency

Inspection Direction: 4 - W to E

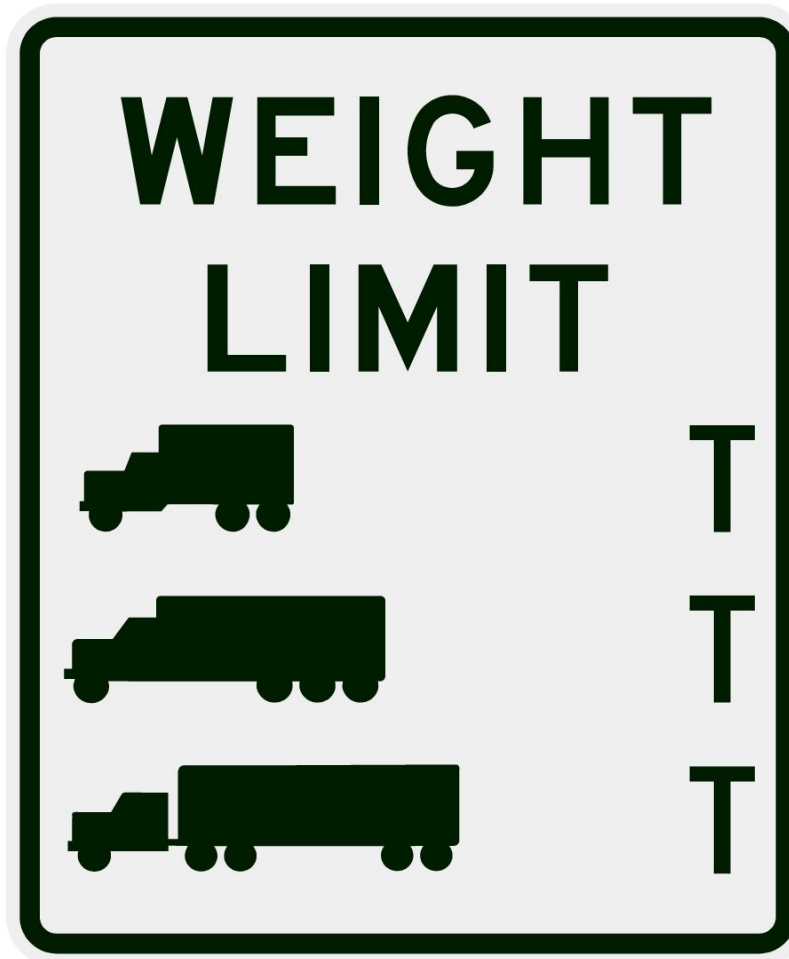
Bridge Posting Information

41 - Structure Open/Posted/Closed: A - Open, no restriction

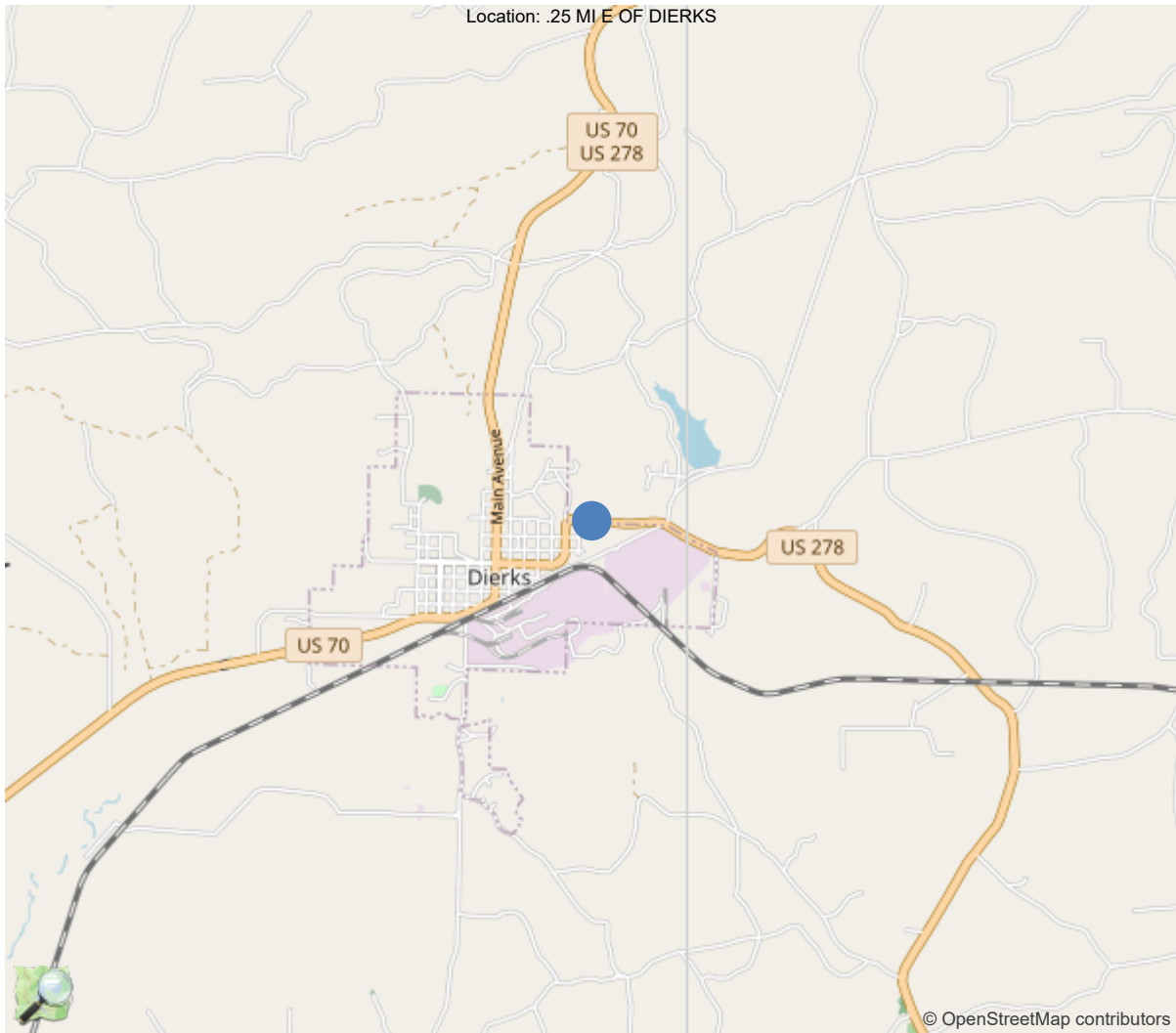
70 - Bridge Posting: 5 - Equal to or above legal loads

Legal Load	Calculated Capacity	Beginning of Bridge Sign Current Value	End of Bridge Sign Current Value
Code 4 (22 Tons)	40		
Code 9 (31 Tons)	50		
Code 5 (40 Tons)	60		

If calculated capacity is less than the Legal Load Listed, the Bridge Legally Requires Posting Signs to be installed by the Bridge Owner.



30"x36" AR



34.12335, -94.00838

National Bridge Inventory Data Sheet

IDENTIFICATION	
(1) State Names	5 - Arkansas
(8) Structure Number	06413
(5) Inventory Route	1
(2) Highway Agency District	03 - District 03
(3) County Code	61 - Howard County
(4) Place Code	0
(6) Features Intersected	HOLLY CREEK
(7) Facility Carried	US 278- 03- 0.68
(9) Location	.25 MI E OF DIERKS
(11) Mile Point	0.68 mi
(12) Base Highway Network	No
(13) LRS Inventory Rte & Subrte	0000000000
(16) Latitude	34.123348
(17) Longitude	-94.008377
(98) Border Bridge State Code	
(99) Border Bridge Structure No.	
STRUCTURE TYPE AND MATERIAL	
(43) Main Structure Type	14
Material	1 - Concrete
Type	4 - Tee beam
(44) Approach Structure Type	00
Material	0 - Other
Type	0 - Other
(45) No. of Spans in Main Unit	4
(46) No. of Approach Spans	0
(107) Deck Structure Type	1 - Concrete Cast-in-Place
(108) Wearing Surface/Protective System	
Type of Wearing Surface	1 - Monolithic Concrete (concurrently pl
Type of Membrane	0 - None
Type of Deck Protection	1 - Epoxy Coated Reinforcing
AGE AND SERVICE	
(27) Year Built	1993
(106) Year Reconstructed	0
(42) Type of Service	15
On	1 - Highway
Under	5 - Waterway
(28) Lane	
On	2
Under	0
(29) Average Daily Traffic	2000
(30) Year of ADT	2018
(109) Truck ADT	19 %
(19) Bypass, Detour Length	32 mi
GEOMETRIC DATA	
(48) Length of Maximum Span	35 ft
(49) Structure Length	140 ft
(50) Curb or Sidewalk Width	
Left	0 ft
Right	0 ft
(51) Bridge Roadway Width Curb to Curb	40 ft
(52) Deck Width Out to Out	42.8 ft
(32) Approach Roadway Width (W/Shoulders)	40 ft
(33) Bridge Median	0 - No median
(34) Skew	0 Deg
(35) Structure Flared	0 - No flare
(10) Inventory Route Min Vert Clear	99.99 ft
(47) Inventory Route Total Horiz Clear	40 ft
(53) Min Vert Clear Over Bridge Rdwy	99.99 ft
(54) Min Vert Underclear	0 ft
Ref:	
(55) Min Lat Underclear RT	99.9 ft
Ref:	
(56) Min Lat Underclear LT	0 ft
NAVIGATION DATA	
(38) Navigation Control	0 - No navigation control on w
(111) Pier Protection	1 - Navigation protection not
(39) Navigation Vertical Clearance	0 ft
(116) Vert-Lift Bridge Nav Min Vert Clear	0 ft
(40) Navigation Horizontal Clearance	0 ft

CLASSIFICATION	
(112) NBIS Bridge Length	Y
(104) Highway System	0
(26) Functional Class	7 - Rural Major Collector
(100) Defense Highway	0 - The inventory route is not
(101) Parallel Structure	N - No parallel structure exists
(102) Direction of Traffic	2 - way traffic
(103) Temporary Structure	
(105) Federal Lands Highways	0 - N/A
(110) Designated National Network	0 - The inventory route is not
(20) Toll	3 - On free road. The structure
(21) Maintain	1 - State Highway Agency
(22) Owner	1 - State Highway Agency
(37) Historical Significance	5 - Bridge is not eligible for
CONDITION	
(58) Deck	7
(59) Superstructure	7
(60) Substructure	7
(61) Channel & Channel Protection	8
(62) Culverts	N
LOAD RATING AND POSTING	
(31) Design Load	5 - MS 18 / HS 20
(63) Operating Rating Method	1
(64) Operating Rating	
Type	1 - Load Factor(LF)
Rating	60
(65) Inventory Rating Method	1 - Load Factor(LF)
(66) Inventory Rating	
Type	
Rating	36
(70) Bridge Posting	5 - Equal to or above legal loads
(41) Structure Open/Posted/Closed	A - Open, no restriction
APPRAISAL	
(67) Structural Evaluation	
(68) Deck Geometry	6
(69) Clearances, Vertical/Horizontal	N
(71) Waterway Adequacy	8
(72) Approach Roadway Alignment	8
(36A) Bridge Railings	1 - Inspected feature meets current
(36B) Transitions	1 - Inspected feature meets current
(36C) Approach Guardrail	1 - Inspected feature meets current
(36D) Approach Guardrail Ends	1 - Inspected feature meets current
(113) Scour Critical Bridges	5 - Bridge foundations determined t
PROPOSED IMPROVEMENTS	
(75) Type of Work	
(76) Length of Structure Improvement	0 ft
(94) Bridge Improvement Cost	\$ 0
(95) Roadway Improvement Cost	\$ 0
(96) Total Project Cost	\$ 0
(97) Year of Improvement Cost Estimate	0
(114) Future ADT	2050
(115) Year of Future ADT	2028

INSPECTIONS *			
(90) Inspection Date			04/01/2024
(91) Frequency			24
(92) Critical Feature Inspection	Done	Freq. (Mon)	Date
A: Fracture Critical Detail	No		
B: Underwater Inspection	No		
C: Other Special Inspection	No		
<p>* The inspection date and frequency information in this box contains the current NBI date and frequency information. Please refer to the report header for the date this inspection was conducted.</p>			

Team Lead: Jared Kegley, Inspection Date: 04/01/2024

Specifications for National Bridge Inventory Sheets

IDENTIFICATION	
B.ID.01 Bridge Number	06413
B.ID.02 Bridge Name	
B.ID.03 Previous Bridge No.	03132
B.W.01 Year Built	1993

LOCATION	
B.L.01 State Code	5 - Arkansas
B.L.02 County Code	61 - Howard County
B.L.03 Place Code	00000 - N/A
B.L.04 Highway Agency District	03 - District 03
B.L.05 Latitude	34.123348
B.L.06 Longitude	-94.008377
B.L.07 Border Bridge Number	
B.L.08 Border Bridge State or Country Code	
B.L.09 Border Bridge Insp. Resp.	
B.L.10 Border Bridge Designated Lead State	
B.L.11 Bridge Location	.25 MI E OF DIERKS
B.L.12 Metropolitan Planning Organization	

CLASSIFICATION	
B.CL.01 Owner	S01 - State transportation departme
B.CL.02 Maint. Responsibility	S01 - State transportation departme
B.CL.03 Federal or Tribal Land Access	N - Not Applicable
B.CL.04 Historic Significance	N - Bridge is not eligible for the
B.CL.05 Toll	N - Bridge does not carry a toll ro
B.CL.06 Emergency Evacuation Designation	

ROADSIDE HARDWARE	
B.RH.01A Bridge Railing Type	
B.RH.01B Bridge Railing Year (YY)	
B.RH.01C Bridge Railing Test Level	
B.RH.02A Transition Type	
B.RH.02B Transition Year (YY)	
B.RH.02C Transition Test Level	

BRIDGE GEOMETRY	
B.G.01 NBIS Bridge Length	140.1
B.G.02 Total Bridge Length	140.1
B.G.03 Max Span Length	35.1
B.G.04 Min Span Length	35
B.G.05 Bridge Width Out-to-Out	42.7
B.G.06 Bridge Width Curb-to-Curb	40
B.G.07 Left Curb or Sidewalk Width	0
B.G.08 Right Curb or Sidewalk Width	0
B.G.09 Approach Roadway Width	40

B.G.10 Bridge Median	0 - No median
B.G.11 Skew	0
B.G.12 Curved Bridge	N - Not curved
B.G.13 Max Bridge Height	15
B.G.14 Sidehill Bridge	N - Not a sidehill bridge
B.G.15 Irregular Deck Area	
B.G.16 Calculated Deck Area	5975

LOADS AND LOAD RATING	
B.LR.01 Design Load	HS20 - HS-20
B.LR.02 Design Method	
B.LR.03 Load Rating Date	
B.LR.04 Load Rating Method	LFR - Load Factor Rating
B.LR.05 Inventory Load Rating Factor	1
B.LR.06 Operating Load Rating Factor	1.67
B.LR.07 Controlling Legal Load Rating Factor	
B.LR.08 Routine Permit Loads	

INSPECTION REQUIREMENTS	
B.IR.01 NSTM Inspection Required	N - NSTM inspection not required.
B.IR.02 Fatigue Details	
B.IR.03 UW Inspection Required	N - Underwater inspection not requi
B.IR.04 Complex Feature	N - Bridge does not have complex fe

COMPONENT CONDITION RATINGS	
B.C.01 Deck Condition Rating	7 - GOOD - Some minor defects.
B.C.02 Superstructure Condition	7 - GOOD - Some minor defects.
B.C.03 Substructure Condition	8 - VERY GOOD - Some inherent
B.C.04 Culvert Condition	N - NOT APPLICABLE - Component
B.C.05 Bridge Railing Condition	7 - GOOD - Some minor defects.
B.C.06 Bridge Railing Transitions Condition	8 - VERY GOOD - Some inherent
B.C.07 Bridge Bearings Cond.	N - NOT APPLICABLE - Component
B.C.08 Bridge Joints Condition	6 - SATISFACTORY - Widespread
B.C.09 Channel Condition Rating	8 - VERY GOOD - Inherent defec
B.C.10 Channel Protection Condition	N - NOT APPLICABLE - Bridge do
B.C.11 Scour Condition Rating	6 - Widespread minor or isolat
B.C.12 Bridge Condition Classification	G - Good
B.C.13 Lowest Condition Rating	7 - GOOD - Some minor defects.
B.C.14 NSTM Insp. Condition	
B.C.15 UW Inspection Condition	

APPRAISAL	
B.AP.01 Approach Roadway Alignment	G - Good
B.AP.02 Overtopping Likelihood	1 - Remote - once every 100 years o
B.AP.03 Scour Vulnerability	AB-T - TEMP - Stable for scour, pos
B.AP.04 Scour Plan of Action	0 - A scour POA is not required.
B.AP.05 Seismic Vulnerability	A - Seismic evaluation completed. B

Team Lead: Jared Kegley, Inspection Date: 04/01/2024

SPAN SETS			
M1			
B.SP.02 # of Spans	4	B.SP.08 Deck Interaction	IM - Integral or monolithic
B.SP.03 # of Beam Lines	4	B.SP.09 Deck Material and Type	C01 - Reinforced concrete - ca
B.SP.04 Span Material	C01 - Reinforced concrete - ca	B.SP.10 Wearing Surface	0 - None
B.SP.05 Span Continuity	1 - Simple or single span	B.SP.11 Deck Protective System	0 - None
B.SP.06 Span Type	G03 - Girder/beam - tee-beam	B.SP.12 Deck Reinforcing Protective System	C01 - Coating - epoxy coated
B.SP.07 Span Protective System	CX - Coating - other	B.SP.13 Deck Stay-In-Place Forms	0 - None

SUBSTRUCTURE SETS			
A1			
B.SB.02 No. of Substructure Units	2	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	P01 - Pile - steel H-shape
B.SB.04 Substructure Type	A02 - Abutment - stub	B.SB.07 Foundation Protective System	0 - None
P1			
B.SB.02 No. of Substructure Units	3	B.SB.05 Substructure Protective System	0 - None
B.SB.03 Substructure Material	C01 - Reinforced concrete - ca	B.SB.06 Foundation Type	F01 - Footing - not on rock
B.SB.04 Substructure Type	B01 - Bent - column or open	B.SB.07 Foundation Protective System	0 - None

HIGHWAY FEATURES			
H1			
B.F.02 Feature Location	C - Carried on bridge	B.H.09 Annual ADT	2000
B.F.03 Feature Name	US 278- 03- 0.68	B.H.10 Annual ADTT	380
B.H.01 Functional Classification	5 - Major Collector	B.H.11 Year of Annual ADT	2018
B.H.02 Urban Code	99999	B.H.12 Highway Max Usable Vertical Clearance	99.9
B.H.03 NHS Designation	N - Non-NHS	B.H.13 Highway Min Vertical Clearance	99.9
B.H.04 National Highway Freight Network	N - Not on the NHFN	B.H.14 Highway Min Horizontal Clearance, Left	
B.H.05 STRAHNET Designation	N - Not a STRAHNET route	B.H.15 Highway Min Horizontal Clearance, Right	
B.H.06 LRS Route ID		B.H.16 Highway Max Usable Surface Width	40.3
B.H.07 LRS Mile Point	0.68	B.H.17 Bypass Detour Length	32
B.H.08 Lanes On Highway	2	B.H.18 Crossing Bridge Number	

HIGHWAY ROUTES					
Highway Parent	B.RT.01 Route Designation	B.RT.02 Route Number	B.RT.03 Route Direction	B.RT.04 Route Type	B.RT.05 Service Type
H1	1	278	2-T - TEMP - Two-way traffic - NS or EW	2 - U.S. route	1 - Mainline



Team Lead: Jared Kegley, Inspection Date: 04/01/2024

WATERWAY FEATURES

W1

B.F.02 Feature Location	B - Below bridge	B.N.03 Movable Bridge Max Navigation Vertical Clearance	
B.F.03 Feature Name	Holly Creek	B.N.04 Navigation Channel Width	
B.N.01 Navigable Waterway	N - Not navigable waters	B.N.05 Navigation Channel Min Horizontal Clearance	
B.N.02 Navigation Min Vertical Clearance		B.N.06 Substructure Navigation Protection	

POSTING STATUS DATA

B.PS.01 Load Posting Status	B.PS.02 Posting Status Change Date
PO - Permanent and Open	

LOAD EVALUATION AND POSTING

B.EP.01 Legal Load Configuration	B.EP.02 Legal Load Rating Factor	B.EP.03 Posting Type	B.EP.04 Posting Value
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Asset #06413(Routine, Underwater type 2)

US 278- 03- 0.68 over HOLLY CREEK

Location: .25 MI E OF DIERKS

Team Lead: Jared Kegley Inspection Date: 04/01/2024

Inspection Notes

58 - Deck (7 - GOOD CONDITION - some minor problems.)

Deck rating is a 7 this inspection due to cracking that is found throughout the driving surface as well as cracking with efflorescence that is found throughout all spans on the under surface of the bridge deck.

59 - Superstructure (7 - GOOD CONDITION - some minor problems.)

Superstructure rating is a 7 this inspection due to minor cracking that is found throughout all concrete tee beams in various locations of all spans.

60 - Substructure (7 - GOOD CONDITION - some minor problems.)

Dropped the substructure rating to a 7 this inspection due to cracking with efflorescence on concrete caps at intermediate bents as well as a spall on bent 3 column 1.

61 - Channel/Channel Protection (8 - Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition.)

Channel rating is an 8 this inspection due to both the up and downstream sides of the bridge being well vegetated and in stable condition. Soundings taken this inspection and linked to report and asset files.

A-54 - Sealable Deck Cracks (Y)

Sealable deck cracking is present in various locations throughout all spans.

A-55 - Deck Washing Needed (Y)

Deck washing is needed. Both the right and left gutter lines have debris that is blocking the deck drains.

A-64 - Vegetation Removal Requested (Y)

Trees and vegetation need removed at all four corners of the bridge.

A-B.C.11 - B.C.11 Scour Condition Rating (New NBIS) (6 - Widespread minor or isolated moderate scour.)

The scour rating is a 6 this inspection due to isolated moderate scour that is found to intermediate bents 2, 3, and 4.



Asset #06413(Routine, Underwater type 2)

US 278- 03- 0.68 over HOLLY CREEK

Location: .25 MI E OF DIERKS

Team Lead: Jared Kegley Inspection Date: 04/01/2024

National Bridge Element Quantities and Notes

ELEMENTS	DESCRIPTION	UNITS	TOTAL	CS1	CS2	CS3	CS4
16	Reinforced Concrete Top Flange	SF	5992	5772	200	20	0
1120	Efflorescence/Rust Staining	SF	20	0	0	20	0
1130	Cracking (RC and Other)	SF	200	0	200	0	0
(16) Deck cracking is present in various locations of the concrete deck in all spans. Some deck cracking has been sealed prior to this inspection, CS2. Efflorescence is found to the undersurface of the bridge deck in various locations in all spans, CS2.							
110	Reinforced Concrete Open Girder/Beam	LF	700	650	50	0	0
1130	Cracking (RC and Other)	LF	50	0	50	0	0
(110) Minor cracking is found in the concrete tee beams in various locations throughout all spans. The minor hairline cracks measure 0.005" and are unsealed, CS2. Efflorescence is found to the concrete diaphragms between all beams at all bents.							
205	Reinforced Concrete Column	EA	9	8	1	0	0
1080	Delamination/Spall/Patched Area	EA	1	0	1	0	0
(205) Minor spalling is found to column 1 at bent 3, CS2.							
215	Reinforced Concrete Abutment	LF	132	132	0	0	0
234	Reinforced Concrete Pier Cap	LF	215	212	3	0	0
1120	Efflorescence/Rust Staining	LF	3	0	3	0	0
(234) Intermediate bents 2 and 4 have various locations of minor efflorescence on the concrete caps, CS2.							
301	Pourable Joint Seal	LF	130	0	0	130	0
2320	Seal Adhesion	LF	78	0	0	78	0
2350	Debris Impaction	LF	52	0	0	52	0
(301) Beginning and end of bridge joint lines have debris impaction, CS3. The intermediate bents 2, 3, and 4 have loss of seal adhesion along the joint lines. CS3							
331	Reinforced Concrete Bridge Railing	LF	280	280	0	0	0

Inspection Photos and Notes



Elevation



Undersurface, Typical of all spans



Deck, Typical of all spans



Concrete t-beams, Typical of all spans



Bent photo, Typical of bents 2, 3, & 4



Abutment 1, Typical at bents 1 and 5



Logs and debris against bent 3 column 1.



Upstream channel



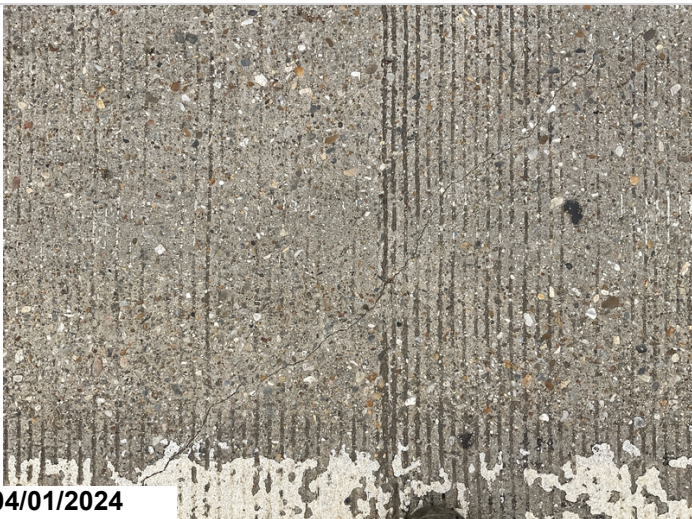
04/01/2024

Downstream channel



04/01/2024

Inventory



04/01/2024

Sealable deck cracking, Typical in various locations throughout all spans



04/01/2024

Deck washing needed, Both right and left sides of bridge deck have debris blocking drains, Typical in all spans



04/01/2024

Deck washing needed, Both right and left sides of bridge deck have debris blocking drains, Typical in all spans



04/01/2024

Span 1, Right side, Trees and vegetation need removed



04/01/2024

Concrete bridge railing



04/01/2024

Bridge railing transition



Pourable joints



Bent 4 column 1 scour



Bent 4 scour



Bent 3 scour



Bent 2 scour



Bent 2 column 1scour



Bent 2 column 3 scour



Span 4, Bay 4, Efflorescence to undersurface of deck, CS2



Span 1, Bay 1, Efflorescence to undersurface of deck, CS2



Span 4, Rt side, Deck cracking, Typical of all spans, CS2



Span 1, Beam 1, Minor hairline cracking that is unsealed,
CS2



Majority of efflorescence is on concrete diaphragm between
beams at bents
Efflorescence is found on the concrete diaphragms between
beams at all bents.



04/01/2024

Bent 3, Column 1 spill, CS2.



04/01/2024

Bent 4, Looking ahead, Efflorescence to right side of cap above column 3. CS2



04/01/2024

Bent 2, Looking back, Efflorescence to left side of cap above column 1. CS2



04/01/2024

Bent 2, Looking ahead, Efflorescence to right side of cap above column 3. CS2



Bent 5, Debris impactation, Typical of bents 1 and 5. CS3



Bent 4, Loss of seal adhesion, Typical of bents 2, 3, and 4.
CS3

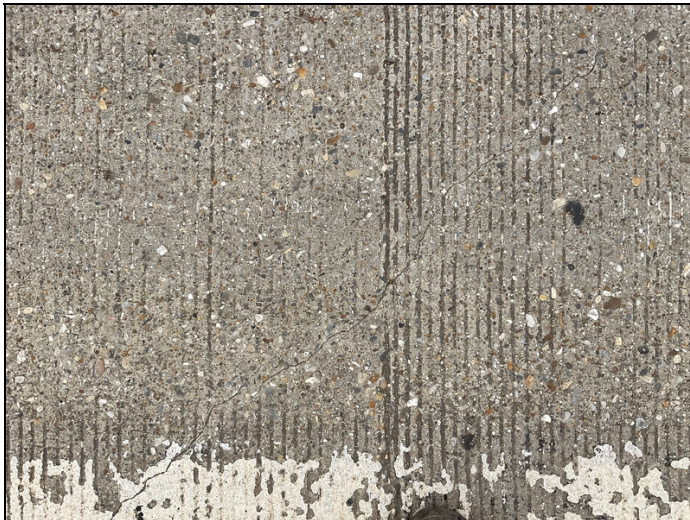
Routine Maintenance

Check Box Maintenance Items

Type of Maintenance	Is Recommended?
A-54 - Sealable Deck Cracks	Yes
A-55 - Deck Washing Needed	Yes
A-56 - Joint Cleaning/Flushing Needed	No
A-57 - Beam End and Bearing Paint Needed	No
A-58 - Cap Cleaning/Flushing Needed	No
A-59 - Joint Repair Needed	No
A-60 - Full Beam Painting Needed	No
A-61 - Polymer Overlay Advised	No
A-62 - Hydro and LMC Advised	No
A-63 - Missing/Incorrect Log Mile Signage	No
A-64 - Vegetation Removal Requested	Yes
A-65 - Clogged deck drains?	
A-66 - Approach minor pothole/leveling needed	

A-54 - Sealable Deck Cracks (Yes)

Sealable deck cracking is present in various locations throughout all spans.



Sealable deck cracking, Typical in various locations throughout all spans

A-55 - Deck Washing Needed (Yes)

Deck washing is needed. Both the right and left gutter lines have debris that is blocking the deck drains.



Deck washing needed, Both right and left sides of bridge deck have debris blocking drains, Typical in all spans



Deck washing needed, Both right and left sides of bridge deck have debris blocking drains, Typical in all spans

A-56 - Joint Cleaning/Flushing Needed (No)

A-57 - Girder End and Bearing Painting Needed (No)

A-58 - Cap Cleaning/Flushing Needed (No)

A-59 - Joint Repair Needed (No)

A-60 - Full Girder Painting Needed (No)

A-61 - Polymer Overlay Advised (No)

A-62 - Hydro and LMC Advised (No)

A-63 - Missing/Incorrect Log Mile Signage (No)

A-64 - Vegetation Removal Requested (Yes)

Trees and vegetation need removed at all four corners of the bridge.



Span 1, Right side, Trees and vegetation need removed

A-65 - Clogged deck drains?

A-66 - Approach minor pothole/leveling needed



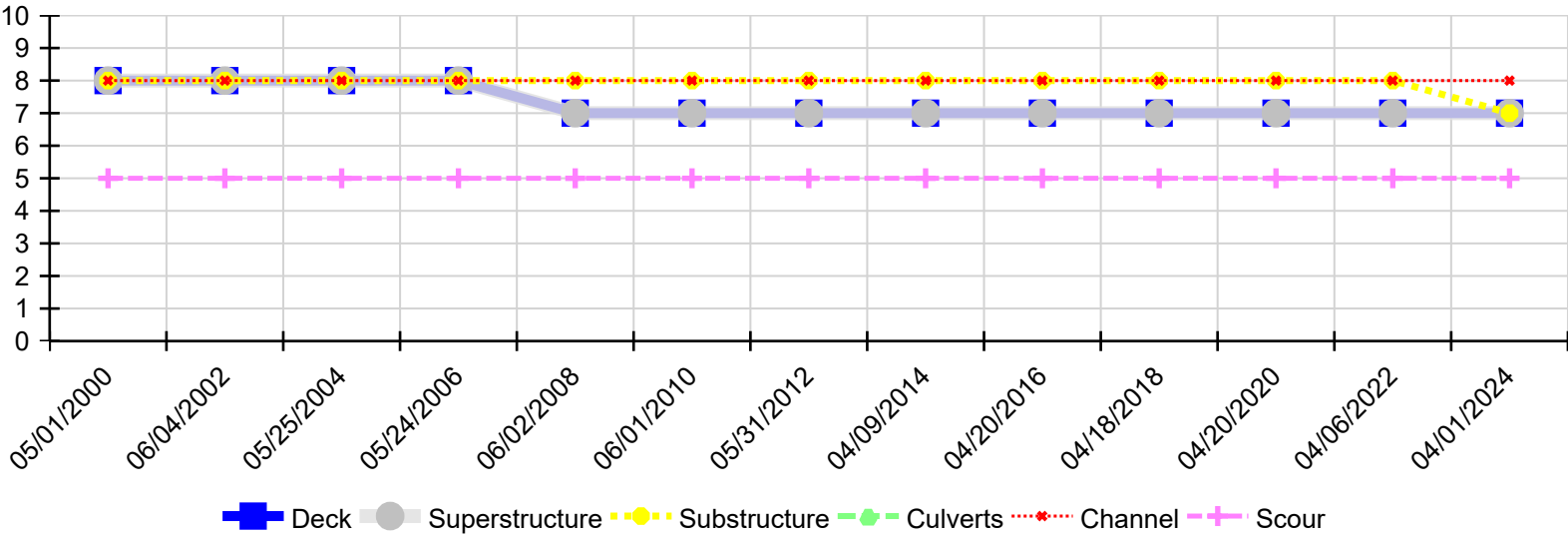
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US 278- 03- 0.68 over HOLLY CREEK

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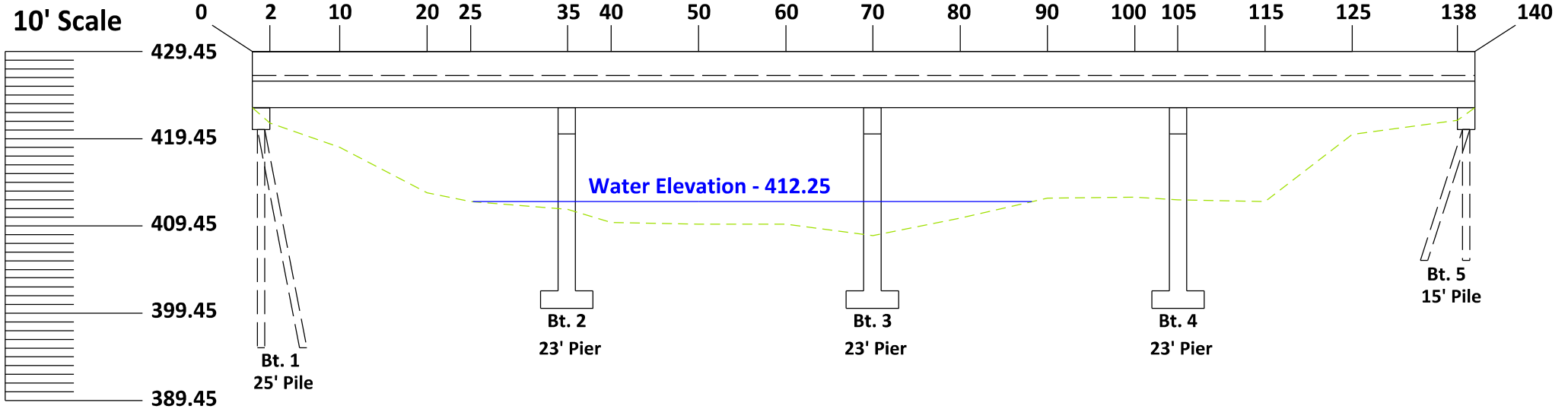
Team Lead: Jared Kegley Inspection Date: 04/01/2024

Condition History



Inspection Date	Deck	Superstructure	Substructure	Culverts	Channel	Scour
04/01/2024	7	7	7	N	8	5
04/06/2022	7	7	8	N	8	5
04/20/2020	7	7	8	N	8	5
04/18/2018	7	7	8	N	8	5
04/20/2016	7	7	8	N	8	5
04/09/2014	7	7	8	N	8	5
05/31/2012	7	7	8	N	8	5
06/01/2010	7	7	8	N	8	5
06/02/2008	7	7	8	N	8	5
05/24/2006	8	8	8	N	8	5
05/25/2004	8	8	8	N	8	5
06/04/2002	8	8	8	N	8	5
05/01/2000	8	8	8	N	8	5

Channel Profile



Channel Profile

